



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

No. XII.

IMPROVED SHIPS' LAUNCH.

The GOLD VULCAN MEDAL was this session given to Mr. JOHN COW, master boat-builder at the Royal Dock-yard, Woolwich, for his improved mode of adapting a Ship's Launch to taking up and laying down heavy Anchors, as well as landing Artillery. The following documents have been received on the subject; and a model of the Boat, with its Fittings, has been placed in the Society's repository,

Royal Military Academy,

DEAR SIR,

February 1st, 1825.

I BEG to be permitted to forward to you the enclosed communication from Mr John Cow, master boat-builder in his majesty's dock-yard here, containing a description of a proposition of his for laying out and weighing ships' anchors, and for landing and embarking cannon, with a model illustrative of the same, and various certificates from captains in the royal navy, under whom the practice has been made, and from others. The value of the invention has been acknowledged by both the Navy and Ordnance Boards having ordered its adoption; and for the purposes of the anchor it is equally applicable to merchant ships, in which it could not fail of being attended with great advantages. Under the latter point of view in particular, it appears to claim the attention of the Society

for the encouragement of Arts, &c. who have always shown themselves ready to give publicity to, and to honour with their approbation and reward, every useful invention.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

PETER BARLOW.

Royal Dock-yard, Woolwich,

February, 1, 1825.

SIR,

I BEG leave to submit for the consideration of the Society for the encouragement of Arts, &c. a model of a seventy-four-gun ship's launch, showing an improvement which I have suggested for rendering her more useful.

It has long been a complaint, that in the event of a ship's getting on shore, and requiring a bower anchor to be laid out for the purpose of heaving off by, that the launch was not equal to that most desirable, and often vitally important object, particularly when there is any sea: not that the boat is unable to carry the weight of the anchor, but that no means were adopted to bring it to that part of her which is alone capable of sustaining it; therefore a raft made of the spare topmasts, and other spars, or two boats, have generally been resorted to on these occasions. The making a raft causes considerable labour, loss of time, and probable injury to the spars; and much danger always attends carrying an anchor by two boats; also great difficulty, at all events, arises in getting it out by either of those methods.

By the method shown by the model, the anchor is sus-

pended, and nearly the whole weight is brought to the midships, and consequently to the greatest sustaining part of the boat; the windlass is so fitted and secured that it is equal to the heaving up of twenty tons; the strain is divided between the sides and the keel of the boat, (which is the main feature of the improvement); the interior of the boat is unoccupied, so that two bower cables may be coiled into her. With the exception of the two small trunks, and the iron stanchion, not any additional lumber is taken in the boat; and when not wanted for this particular service, she is in precisely the same state as boats at present are; every part is so arranged, that not any difficulty can possibly arise in fixing it, and the boat may be hoisted out, the apparatus fixed, and the anchor slung under the bottom, in less than half an hour.

It does not to any great extent impede the passage of the boat through the water, as was proved by a frigate's launch, with a bower anchor suspended, and two bower cables coiled into her, being towed by two pinnaces, at the rate of one knot, against a flood tide in the Tagus. (*See certificate, No. 1*).

By taking an anchor out in this manner the difficulties are considered to be very much decreased, and the danger entirely obviated.

Also ships parting from their anchors would have the means within themselves of picking them up: at present they are obliged to look for fortuitous aid. Should the anchor be left where it would be inexpedient to take the ship, which was clearly evinced in the case of the *Minden* seventy-four-gun ship, in the East Indies, in 1819, which ship left her anchor in the Coleroon shoal, where she had struck and got off again; and when the ordinary process

by a purchase with the launch was found to be ineffectual, they employed sixty of the natives of Porto-Novo, who made a raft and weighed it.—(See *Hampshire Telegraph of the 20th September, 1819*).

All nautical men can well appreciate the advantages of preserving an anchor and cable, independent of its actual value, particularly on foreign voyages.

As all ships' long boats, as well as ships of wars' launches, are by this method capable of laying out or weighing their bower anchors, the suggestion is equally applicable to merchant ships.

I am fully aware, although I was not at the time I suggested this plan, that the principle of carrying an anchor under a boat's bottom is not new, for I understand that a boat was fitted in this dock-yard in 1779, and one in 1804, with a view to such practice; also East India ships' boats were about that period so fitted; but the method of carrying the idea into effect was essentially different from the present, and was found impracticable, as far at least as we may judge from its being discontinued. The method at that time proposed, was to have only one *fixed* trunk, which was in the middle of the boat, close to the side of the keel; the windlass, therefore, could only be supported at the ends, and was unequal to the heaving up of any great weight; the great strain, also, was entirely on the sides of the boat. Now, by a reference to the model, it will be perceived, that there are two *moveable trunks* at a proper distance from the keel, thereby enabling a strong iron stanchion to be placed on the keelson, which stanchion supports the middle of the windlass, and consequently makes it of sufficient strength to weigh any weight the boat is able to sustain; and to this peculiarity I am

bold to presume I may attribute the success which has attended my proposition ; for after having undergone a probation of nearly five years, during which time more than forty of his majesty's ships' boats have been so fitted, it is at length ordered by the honourable Navy Board, to be adopted in his majesty's service.

I am informed there are about twenty reports at the Navy Office in favour of it ; but those reports being " confidential," I have been unable to procure copies of them.

I beg, however, to transmit a copy of one from Captain Warren, C. B. who did me the honour to send it with his full permission to make what use I please of it ; also letters from Captain Rowley, Captain Salmond (late first lieutenant of H. M. ship *Sybil*), and Simon Cock, esq. secretary to the ship owners society.

I must also beg to be permitted to state, that very serious accidents have arisen, and many valuable lives have been lost in endeavouring to weigh bower anchors with a boat. An account of an accident of the most distressing nature appears on Lloyd's List of the 15th of April last :—" A tremendous gale was experienced at Alvarado, 11th and 12th February ; a launch belonging to the United States schooner *Shark* was sent to assist an English schooner that ran on shore during the gale, and got her off ; when the boatswain and sixteen men were left to weigh an anchor ; but the boat was upset in the gale, and all, except one man, were drowned."

I must submit, that had the boat been fitted according to the accompanying model, she could not possibly have upset, and most probably this afflicting catastrophe would not have occurred. I am therefore led to hope, that

should the Society consider it worthy their attention, and give it publicity in their annual volume, it may be the means of inducing the owners of merchant ships to adopt it, and it can be done at a trifling expense.

Were the consequences attached to the proposition confined to the preservation of property only, perhaps I ought to apologize for troubling the Society with what may not be considered as an entirely new invention, but as the lives of many valuable men have been lost for want of the precautions here offered, I feel that humanity imperatively calls on me not to omit any opportunity of rendering my assistance to lessen the dangers to which seamen are exposed in the execution of their duty.

I must likewise beg to state, that I have adopted this mode of fitting boats to the purpose of landing and embarking heavy guns on a beach through a surf, with perfect safety to the men and boat. The models of two 32-pounder guns, lashed on slides, (each made of a spare half-anchor stock), and prepared for landing, accompanies the model.

The advantages presumed to be attained by this method are, greater facility at all times, and to enable it to be done when there is so much surf on the beach as would preclude the possibility of the boats approaching near enough to land, or to embark them in the usual way.

It is proposed to carry two guns under the bottom of the boat, one on each side of the keel, to bring the boat to an anchor without the surf, at a prudent distance from the shore, (which distance local circumstance must determine), so as to prevent the boat striking on the gun; a small line is the only communication necessary with the

shore, by which line the larger hauling ropes are conveyed; the guns are lowered from the boat, and hauled up the beach.

Should the operation be carried on where there is a rise and fall of tide, and the guns should not be immediately wanted, it will be only necessary to take the boat in at high water and drop the gun, *which may be taken up as the tide leaves it*; in either case the boat is instantly fit for any other service, without risk of damage by being kept afloat.

The interior of the boat is left clear for stowing the carriages and other stores.

The embarking the guns is done in the same way, care being taken to have anchors of sufficient power to moor the boat without the surf, so as to counteract the weight of the gun, and the resistance it meets with in being hauled off from the shore.

I solicited and obtained permission from the Honourable Board of Ordnance, to lay the plan before a committee of colonels and field-officers of artillery. The committee suggested that a boat should be fitted under my superintendence, and an experiment be made in the Thames. A boat was fitted, and two 24-pounder iron guns were landed and re-embarked in the presence of the committee, the boat being anchored about twenty fathoms from the shore; the last of the two guns was landed, and drawn completely up the causeway, by forty men, and again hauled off the shore, and hove up to the boat's bottom by twenty-nine men in twelve minutes.

The committee expressed themselves perfectly satisfied, and at their suggestion his Grace the Master-General and

Board have ordered it to become one of the standing exercises of the royal regiment of artillery.

I have not been able to procure from the Honourable Board a copy of the committee's report. On my application, I was informed by a letter from the secretary, "that it was not usual to furnish individuals with copies of reports of that description."

I am also informed, that Sir William Congreve has added his testimony in favour of it to his Grace the Master-General.

It has likewise become one of the drills of the royal marine artillery at Portsmouth.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

JOHN COW.

CERTIFICATES.

No. I.

(Copy.)

GENTLEMEN,

His Majesty's ship Seringapatam,

Lisbon, July 31, 1821.

IN compliance with the request contained in your letter of the of 28th May, I have to acquaint you, that I have made the undermentioned experiments of the launch fitted on Mr. Cow's plan, viz.

		Ft.	In.
The launch, when light, draws	{ Forward	1	0
	{ Aft.....	1	10

Yesterday we unmoored ship, hove short on best bower, and suspended the small bower anchor from the boat's bottom without the smallest difficulty, with a kedge laid out, and two boats at intermediate distances holding up bights of the cable; the anchor was hauled out by the people in the launch, and let go from her bottom: the ship being thus moored as before.

		Ft.	In.
Draught of water with the anchor suspended	{ Forward	1	6
	{ Aft.....	2	6

This day we put a bower cable into the fore part of the launch, and suspended the spare anchor from the bottom:—

		Ft.	In.
Her draught of water was then.....	{ Forward	3	0
	{ Aft.....	2	7

We then put another bower cable in, with the principal part of it aft:

		Ft.	In.
The launch then drew.....	{ Forward	2	11
	{ Aft.....	2	10
Upper part of wash streak from water line		1	6
Water within the trunks, from the top		0	1

With this weight two pinnaces towed her at the rate of one knot, against a flood tide.

On the small bower being let go from the launch yesterday, a double buoy rope was left fast to the crown of the anchor, by which, taken up through the trunks, and brought to the windlass, with jiggers to the ends of the

levers, the anchor was weighed, and hove close up under the boat's bottom with great ease.

From these experiments, I trust the board will agree with me as to the great utility of this plan, and the benefit it is likely to prove to the naval service, by affording the means of saving a ship from wreck when no other means could be obtained.

As you will perceive that, with the weight of the anchor and two cables, the water was only one inch from the top of the trunks, I should beg to suggest that leather hoses be nailed on the top of the skid to which the trunks are fixed, of sufficient length to come up just clear of the under part of the windlass, that after the operation of suspending the anchor, a seizing may be clapped on to prevent the water washing over them; and as there is a very great strain on the windlass when heaving the anchor up, I should recommend that broad iron hoops be fitted round the windlass, with holes over those in the windlass where the levers are slipped in.

I am, Gentlemen,

Your obedient servant,

(Signed) SAMUEL WARREN, *Capt.*

*The Principal Officers and Commissioners
of his Majesty's Navy.*

No. II.

SIR, Tendring Hall, Suffolk, Jan. 30, 1825.

YOUR letter would have been sooner answered, but I was absent from home when it arrived. I have great pleasure in saying, that my opinion of your boat is such, that if I should ever again command one of his majesty's ships, I should certainly have the launch fitted according to your plan, which I consider most useful.

I am, Sir,

Yours, &c.

Mr. Cow, Dock-yard, Woolwich.

JOSH. R. ROWLEY.

No. III.

SIR, Tony-burn, Fifeshire, Nov. 26, 1821.

As a projector, you will no doubt be anxious to hear how one of yours answers, which I have had an opportunity of seeing tried much to my satisfaction.

It is the way you have fitted boats for weighing and carrying out anchors, as the Sybille's was about fourteen months ago. Whilst I was first lieutenant of her, and riding off Vera Cruz, Gulf of Mexico, we weighed the small bower anchor, after being down three weeks, during which time we had a very heavy gale for two days, which was done with great ease by twelve men, and again laid out by one boat towing the launch: the ground was muddy, and the anchor had good hold.

I am not aware whether Captain Rowley has made any report on it; perhaps he may require more trials; but I conceived it would be some satisfaction to yourself, from

one who wishes his humble opinion could be of use in forwarding your designs for the good of our service.

I remain, yours truly,

P. SALMOND,

*Late First Lieutenant of his
Majesty's ship Sybille.*

*Mr. Cow, Master Boat-builder,
Woolwich-yard.*

No. IV.

Ship Owners' Society, New Broad-street,

SIR,

May 12, 1824.

THE committee of this Society having had under consideration your improved method of laying out or weighing bower anchors, have directed me to inform you that they highly approve of the plan, as being at once simple and effective.

I am, Sir,

Your very obedient humble servant,

S. COCK, *Secretary.*

*Mr. John Cow, his Majesty's
Dock-yard, Woolwich.*

Remarks on carrying or weighing an anchor with a ship's launch.

SHOULD it be necessary to lay an anchor out, it is submitted, the method of doing it would be to make the bight

of a strong rope fast to the flukes of the anchor; also, a single rope to the ring, to lower the anchor from the cat-head sufficiently low to prevent the boat striking on it; to reeve the fluke ropes through the trunks, bring them to the windlass, and heave the anchor nearly close to the boat's bottom; when it is thus suspended a luff tackle is brought to the ring-rope, which will bowse the stock up as close as may be necessary.

When it is required to pick an anchor up, it is also submitted that the better way would be to sweep it, with the bight of an halser, and, by sending a jewell down, jam the two parts close to the anchor; then reeve the ends through the trunks, and bring both parts to the windlass.

Should it not be possible to sweep the anchor, the windlass is so well secured that it may be weighed with the single buoy-rope, provided the rope is sufficiently strong.

Remarks on landing and embarking heavy guns through a surf.

It is proposed to place the gun on a slide, which slide (should there not be any provided) may be made of a spare half anchor stock, cut in two parts and bolted together, so as to form a bed sufficiently broad for the gun to lie on; a pair of gun-slings is put on the gun to hoist it out or into the ship; also a strong rope to heave it up under the boat's bottom, so placed that the gun should balance. Guys, to keep the gun steady, are put on, which guys should be marked, so as to indicate when the gun is in a direct fore and aft position. Ropes for hauling the gun ashore should

be secured *under* the muzzle. The gun may also be padded, with mats or swabs, at the breech and muzzle, to prevent the bottom of the boat being injured, should there be much motion. The gun should then be placed on the slide, and secured to it by lashings to the bolts which connect it.

When the first gun is hove up under the bottom of the boat, it becomes necessary to relieve the windlass, in order to heave the second up; three capstan bars (if nothing better is at hand) are to be lashed together and placed across the boat; a stopper is made fast to the rope which the gun is hove up by, which stopper is brought to the capstan bars, and the gun suspended from them.

The second gun is hove up in the same manner, which may remain suspended from the windlass.

The boat should be anchored without the surf, at a distance which local circumstances must determine, and her stern backed towards the beach; a small line is the only communication necessary with the shore, by which line the larger hauling rope is conveyed. The guns, when lowered from the boat, are hauled up the beach by the people on shore.

When the gun is to be *embarked*, the boat must be securely anchored without the surf, and the gun placed and lashed on the slide, the same as for landing; the rope must be brought over the stern, and reeved through a leading block that is lashed to an eye-bolt, and brought to the windlass (so as to bring the strain perpendicular), and hove off into a sufficient depth of water, that the boat may float over it; then the rope which is to heave the gun up is reeved through the trunks, and brought to the windlass; the cable is slacked, so as to bring the centre of the boat

over the gun, and it is hove up to the boat's bottom ; care should be taken to have the gun-slugs sufficiently long to enable them to be got at when alongside of the ship.

References to the figures, plate IX.

Figures 1 and 2.

Views of a 74-gun ship's launch, with a bower anchor suspended under the bottom, and a bower cable coiled into the boat.

a the cable, *b b* the anchor, *c c* buoy-rope, *d d d* rope by which the anchor is hove up when weighing, or suspended when carrying, by the windlass ; *e* line of flotation when the boat is light ; *f* line of flotation should a bower anchor be suspended over the stern of the boat ; *g* line of flotation when the bower anchor is suspended (as shown in fig. 1), a bower cable coiled in the after part of the boat, and twenty men in the boat.

Figures 3 and 4.

Elevated view and midship section of the launch, with two thirty-two pounder iron guns suspended from the windlass.

h h h the guns lashed on wood slides ; *i i i* ropes by which the guns are hove up to the boat's bottom ; *k k* water-tight removable wood trunks, through which the ropes pass to the windlass ; *ll* the windlass in two parts, connected by a wrought-iron gudgeon and socket ; *m* a strong removable wrought-iron stanchion, which supports the middle of the windlass ; *o* line of flotation, when there are two thirty-two pounder guns suspended, their carriages, ammunition, stores, and twenty men in the boat ; *p* the rope by which the gun is hauled on shore when landing, and off the shore

when embarking ; q q guy ropes to steady the gun when under the boat's bottom.

Figures 5 and 6.

Plan and profile section.— l l windlass ; m iron stanchion ; n n iron stays attached to the stanchion, to keep it steady in a fore and aft direction ; k water-tight trunk.

JOHN COW.

No. XIII.

FORCING PUMP.

The sum of FIVE GUINEAS was this session presented to Mr. ELISHA PECHEY, of Bury St. Edmunds, for his Forcing Pump ; a model of which has been placed in the Society's repository.

THE circumstances to be remarked of Mr. Pechey's pump, are, first, the construction of the pump itself ; and, secondly, the mode of uniting the pieces of leaden pipe composing the tube through which the water passes.

Whatever be the depth of the well, a frame of timber is to be laid across it at a height not exceeding ten or fifteen feet above the average surface of the water. A semicircular pump-barrel, similar to that invented by Mr. Aust, and described in vol. 37 of the Society's Transactions, is fixed on this frame, and is connected with the ascending pipe, which is furnished with two valves, opening upwards, one being placed below and the other above the junction of the pipe with the barrel, thus forming a forcing pump. The